

**PREDICATE QUESTIONS (substance) AT A TRIAL WITH GC/MS (#17-35)**

- **Annie Dookhan/ Daniel Renczkowski**
- **Commonwealth v. Chukwunonso Ifejiofor** (Trial Nov. 16, 2011)

1) Could you please state and spell your full name?

- Annie Dookhan

2) Where are you currently employed?

- Department of Public Health – Drug Lab

3) How long have you been employed with the State Drug Laboratory?

- 7 years

3a) What is your title?

- Chemist II

4) What are the duties and responsibilities as a chemist at the Drug Laboratory?

- As a custodial chemist, to analyze unknown substance for potential illicit narcotic. As a confirmatory chemist, to structurally identify the components in the sample. As well as run and maintain the QC/QA program in the drug lab. QA/QC responsible for accuracy and preventative maintenance of all instruments, balances, chemical reagents and to ensure that all the chemists are following the policies and procedures of the lab and DPH.

5) What formal education have you received?

- MS in Chemistry
- BS in Bio-Chemistry

6) Have you also received specialized training in the field of drug analysis and identification?

- 6 week in house training by the lab supervisor
- DEA training

7) Can you explain in general how you receive substances from police agencies?

- Samples are submitted by the police dept. A drug receipt is filled out documenting the police department, submitting officer and a description of the sample/s. The sample is assigned a Lab # and a gross weight. A control card is generated with the pertinent information from the drug receipt. The sample and the control card is placed into a manila envelope with the corresponding lab # and placed into the safe until the sample is assigned to a chemist.

8) Once the substance(s) have been logged in, are they assigned to a particular chemist for testing and analysis?

- Samples are assigned randomly to any of the chemist.

9) How do you receive case assignments for testing and analysis?

- Basically, a chemist will ask the evidence officer for samples and they will be assigned the next set of samples randomly.

- 10) What happens when you are assigned a case?
- The evidence officer will log out and assign me the samples. I will then check each manila envelope to make sure the control card, lab # and sample correspond with each other
- 11) Approximately how many times have you had occasion to test for a controlled substance?
- 10s of thousands as both a custodial and confirmatory chemist
- 12) In particular have you received training and learned how to test the presence of Heroin:
- Yes
- 13) Can you describe the test(s) to determine whether a substance contains Heroin:
- **Heroin:** We perform prelim test which include 4 spot test.
- 14) If heroin is present, what happens during that test (those tests)?
- **Heroin:** Cobalt thiocyanate test may turn from a pink to a blue color. Marquis test will turn from a clear to purple color. Froedhes test will turn from clear to purple color. Meckes test will turn from a clear to a green color. These test are indicative of the presence of an opiate.
- 15) Does this test have a name/ Do these tests have names?
- **Heroin:** Cobalt thiocyanate, marquis, froedhes & meckes
- 16) Did you have an opportunity to analyze some substances in this case?
- Yes. Presumptively positive for cocaine / heroin
- 17) Where you the GC/MS chemist in this case?
- Yes
- 18) What does GC/MS stand for? (confirmatory chemist)
- Gas chromatography/Mass spectrometry
- 19) Can you explain how the GC/MS works?
- Mass Spec Operator will type the sequence for each instrument. A robotic arm will pick up the each vial and the sample will be injected into the instrument. GC will separate each components of the substance according to retention time (size of the molecule) and then MS will breakdown each component into specific ions, which is like a fingerprint of each molecule. No two molecules are exactly the same.
- 20) Have you received training in GC/MS?
- Yes
- 21) Do you take a proficiency test at the end of that training?
- Yes
- 22) How many times have you had occasion to analyze heroin samples by GC/MS?

- 10s of thousands

23) How was this sample submitted to GC/MS?

- A small amount of sample is placed into a vial with methanol. The vial is sealed and labeled with the appropriate lab #. The vial, control card and MS control sheet is submitted to the GC/MS lab by the primary chemist

24) Was it labeled with lab number Lab # [REDACTED]

25) How do you know that the GC/MS is working properly?

- Tune report is generated for each instrument prior to use. This will determine if the MS is working correctly. QC Mix is injected into the system to determine if the GC is working correctly. Blanks are placed on each run to check for contamination.

26) When you analyzed the GC/MS results of \_\_\_\_\_, what did you look for?

- Visual Comparison of the retention time and ions of the unknown sample to the standard. In this case the standard was heroin.

27) What were your findings?

- Heroin

28) What did you do next?

- Control card is filled out with the results, initial of the confirmatory chemist and the date analyzed. Then the control card is submitted to the evidence office to generate a C of A

29) Was a report/certificate generated?

- Yes

30) I am placing a document before you do you recognize that document? How?

- Yes. Certificate of analysis for Lab # [REDACTED]

31) Did you generate that document?

- No...evidence office

32) Did you include the information that you received with this substance on this document?

- Yes ...determine to be heroin

33) Is that your signature on the document?

- yes

34) Does this document relate to these drugs?

- Lab # [REDACTED]

35) How do you know that these drugs relate to this drug certificate?

Lab # [REDACTED]